



**Peter Grant on moisture testing**

# A simple diagnosis that is worth it's salt

If you as a floor fitter find a damp floor, think how professional you will seem to your client if you can diagnose the cause. One way is to use salts analysis for diagnosing some types of moisture conditions.

Why salts? Ground water (water present in the soil) contains two primary salts, nitrates and chlorides. There are others in trace elemental form, but they can be ignored for the purpose of this exercise.

If ground water finds its way into the masonry of a building it will migrate via capillary action until it comes across a vapour barrier or DPC/DPM (damp proof course/damp proof membrane).

If none is installed, the moisture will continue to migrate until it finds a surface or surfaces exposed to the air, at which point the water evaporates in the form of vapour (raising the relative humidity of that air in the immediate vicinity of the point of evaporation, hence the use of humidity boxes and hygrometers in the BS 8201/8203/5325 tests).

Two interesting facts at this point. Firstly, building regulations made it mandatory to install a horizontal DPC in ground floor walls from 1875. This was in the form of slate, as visqueen and bitumastic products were not available until much later in the 20th century.

Secondly, water in the form of 'rising damp' will not rise more than 2-3ft from ground level via capillary action. The actual height will depend on many factors including type of masonry, wall coverings and useage of room (which influences ambient relative humidity

and hence rate of evaporation).

This is why a common point of remediation of a classic rising damp scenario is removing plaster to 1m above floor level. This allows the removal of all traces of salts which have accumulated on the surface.

This is important for two reasons, one, chlorides and nitrates are hygroscopic, that is 'wick up' moisture from the atmosphere and hence leave a damp surface that, secondly, can leave a false trail for subsequent surveyors who might flag up rising damp that has erstwhile been remediated. It also looks bad decoratively speaking!

So, where are we as floor fitters with all this knowledge?

Let me explain by way of two case studies. Both involve Victorian properties built after 1875, so the solid 9in walls have slate DPCs.

The first property has its original timber suspended floors. The owners had ordered a new laminate floor for the front room. This was duly fitted, but problems started to arise with an obvious ingress of moisture in the bay window area where the wall at skirting board level was giving high moisture meter readings.

Surface samples were taken and subjected to salts analysis which revealed positive readings for both nitrate and chloride. This is consistent with water depositing these salts.

An external survey showed raised ground levels; the front garden had banked up above the height of the DPC, resulting in rising damp. Primary remediation required restoring

the ground level to at least 150mm (two courses of bricks) below the DPC.

The second property also showed symptoms of raised moisture at floor level in the front bay area. Similar plaster samples were taken from the wall just above the skirting, but this time returned negative results on both chlorides and nitrates.

The external inspection showed that the DPC two courses above ground level (in the form of a concrete path). However, looking upwards, the gutters were clogged with grass or other vegetation and there was evidence of regular overflows during heavy rain.

The original stone sill had the groove or water drip filled in with a mortar mix (no doubt some over enthusiastic DIY type)!

There was also evidence that the DPC had been subjected to misguided pointing as well. All this flagged up a classic case of lateral penetration of rainwater. Primary remediation involved establishing the water drip groove under the sill and cleaning the gutters.

So, if in any doubt about what is causing moisture ingress, consider a salts test; it's easy to do and whether positive or negative, it can help you pin point the source of the problem. And your client will be impressed as well! **CFJ**

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**John Roberts trade tests a Makita percussion-driver drill**

# Plenty of power in a lightweight drill

WITH my tool testing hat on, I was invited to Makita training centre in Milton Keynes to meet Ray Wilby. There were far more tools than I had imagined, although some were not for use in the flooring trade.

Ray gave me a detailed technical overview of the tools, too much to take in, on just one visit. One thing was obvious, their passion and belief in the tools they produce.

Makita have agreed to help me with tools for training and I will be testing a number for them. Walking around the training centre, I noticed what I thought was a special drill in a case.

This drill featured the Lithium-Ion 18v 3Ah battery, incorporating the latest technology. The battery is said to

be 40% lighter than similar types, takes only 22 minutes to charge, and is capable of being charged over 2000 times which is 430% more run time.

The lightness of the battery is obviously important, particularly with safety and duration of working time with a tool. This means less stress on your body! Working time is a critical factor for those who use drills constantly during their working day, especially when on-site where there is always a scramble for power outlets.

I did not test the battery to destruction, so I will have to take their word for its longevity, but I did test the run time. I was very impressed by how long the battery retained good power. The lightness and overall weight of

the drill is a good feature.

Floorcovering installers don't normally use a drill constantly, but the drill was small compared to others I have tried. This makes it useful in confined spaces and for carrying on a belt clip.

Due to its size I was concerned with the drill's power / torque, but found this more than adequate; its torque of 50Nm quickly dispelled my concerns.

The drill has a rubberised ergonomic handle, which I found very comfortable and easy to grip. There are two speeds and three settings – screw, drill and hammer – to cover most tasks.

Another good feature is its light which shines onto the area to be drilled or screwed, making location much easier. Finally, I

found the case sturdy and with enough room to store drill bits, etc.

I rate the percussion-driver drill model BHP452 highly. I have asked other people to test it, including in training sessions, and they all give equally good reviews, with most commenting on its power in relation to size and also its good balance. **CFJ**

**■ www.makitauk.com**  
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